

Surface of *zoarium* very flat; colour brown, with a tinge of red; in old states white and highly calcified.

Primary cell ovate, area occupying about three fourths of the front surface, with a membranous covering; margin slightly thickened; about fourteen spines surrounding the area, which originate outside and a little below the margin.

Loc. Cumshewa; Houston Stewart Channel; abundant.

The primary cell is interesting as giving a clue to the genetic history of the species and of the Cribriline form generally. There can be little doubt that the ridges which constitute the chief framework of the front wall in the adult are modifications of the spines, which are preserved in the early condition of the cell.

EXPLANATION OF THE PLATES.

PLATE XIX.

- Fig. 1.* *Scrupocellaria varians*, n. sp., nat. size. 1 *a.* Zoecia, magnified.
1 *b.* Dorsal surface. 1 *c.* Avicularia.
Fig. 2. *Membranipora nigrans*. 2 *a.* Large avicularium.
Fig. 3. *Membranipora protecta*, n. sp.
Fig. 4. *Membranipora acifera*, MacGillivray, form *multispinata*.
Fig. 5. *Membranipora echinus*, n. sp.
Fig. 6. *Membranipora levata*, n. sp. 6 *a.* Ooecium.

PLATE XX.

- Fig. 1.* *Membranipora exilis*, n. sp.
Fig. 2. *Membranipora Sophieæ*, Busk, form *matura*.
Fig. 3. *Membranipora minuscula*, n. sp. 3 *a.* Avicularian area.
Fig. 4. *Membranipora corniculifera*, n. sp. 4 *a.* Zoecium with ovicell, showing the horn-like projection on the latter.
Fig. 5. *Cribrilina furcata*, n. sp.
Fig. 6. *Cribrilina hippocrepis*, n. sp. 6 *a.* Primary cell.

BIBLIOGRAPHICAL NOTICES.

A Monograph of the British Phytophagous Hymenoptera (Tenthredo, Sirex, and Cynips, Linné). By PETER CAMERON. Vol. i. 8vo. London: Ray Society, 1882.

AMONG the groups of insects which may be regarded as generally neglected by British entomologists, the Hymenoptera, as a whole, occupy a tolerably prominent place. Some few of us pay attention to the bees, wasps, and sand-wasps of the country; and the ants are pretty well known; but the great assemblage of insects forming the

Terebrant section of the order, according to the older systematists, attract few observers; and, with regard to the great bulk of them, the cause is not far to seek. The petiolated forms are so fearfully numerous that no one not possessed of a most determined spirit could ever hope to cope with them successfully, and the foreign works devoted to their classification and description are for the most part fragmentary in their scope; so that, in the case of these creatures, the British collector finds himself face to face with difficulties which can only be overcome by great perseverance, with free access to a very extensive library, and it is no great wonder if he recoils from the task.

With the Tenthredinidæ and other securiferous types, however, things are somewhat different. Hartig's well-known work, 'Die Familien der Blatt- und Holzwespen,' has for the last twenty years furnished the entomologist with a reliable manual of the European forms, while a considerable number of other writers in France, Germany, and Scandinavia have published important contributions, bearing especially on the classification and determination of these insects, most of which apply more or less closely to our British species. Moreover we have in English a work, of rather ancient date it is true, which treats of the Tenthredinidæ of these islands, in the incomplete 'Illustrations of British Entomology,' by James Francis Stephens; and although Mr. Cameron, in the book now before us, speaks rather slightly of Stephens's labours, a glance through his own synonymy shows that Stephens's determinations of the species were very generally correct, according to the lights of more than forty years ago.

Nevertheless the Tenthredinidæ seem never to have attracted much attention in this country, which is the more to be wondered at as they are for the most part very elegant and often beautiful creatures, and easily bred from the larvæ, so that the natural history of most of the species may be investigated with the same facility as that of the more popular Lepidoptera; and it is therefore with no small gratification that we welcome the appearance of the first volume of a 'Monograph of the British Phytophagous Hymenoptera,' which treats exclusively of a portion of the great family of the Sawflies. The author, Mr. Cameron, has here associated with the true Sawflies, not only the nearly allied securiferous forms of the Siricidæ and their allies, but also the petiolated phytophagous species constituting the family Cynipidæ; and in this way his book, when completed, will treat of the most interesting groups of Hymenoptera outside the Aculeate section of the order.

Taking the present instalment of his work as a sample of the whole, we most sincerely congratulate Mr. Cameron on the admirable manner in which he has performed his task: throughout we find traces of the most careful and conscientious investigation; and every department of his subject appears to have received from him an equal amount of attention. Besides careful descriptions of the genera and species, the author gives an introductory description of the external structure of the insects forming the family Tenthre-

dinidæ, and indicates the parts which are of most importance for taxonomical purposes; and this is followed by a short account of the habits of the perfect insects, and of their transformations, with a list of food-plants and a table for the determination of the larvæ, so far as the latter are known to him. One remarkable point specially referred to is the occurrence of parthenogenesis among the Sawflies, which appears to be a much more general phenomenon than had been supposed. Of many species males only are known; of many others the males are in a miserable minority to the females; and of several it has been directly ascertained that the eggs deposited by unfecundated females are in a greater or less degree prolific. Contrary to the rule observed to prevail among the social Aculeate forms, these unfecundated eggs have occasionally produced male as well as female progeny. From this side, therefore, the Sawflies offer a most interesting and important field of investigation, and one which, from the ease with which the insects may be reared, may be cultivated without much trouble by almost any one. The investigation of the phenomena of parthenogenesis as displayed by the Gallflies, another family of which Mr. Cameron will treat, has already led to important results.

Having cleared the ground, as above indicated, Mr. Cameron briefly discusses the chief systems of classification adopted by his predecessors, and then proceeds to develop his own views upon this knotty point. Of these we need say but little, except that the author seems to us to fall into the error, which is so rife in the present day, of making his classification too complicated. Nearly every systematic writer now appears to think that his main business consists in splitting up every group as much as the most minute analysis will enable him to do, the consequence of which is the establishment of a host of named subfamilies, tribes, groups, sections, divisions, &c., which it is utterly impossible for any one not specially engaged in the study of the group so treated to carry in his head, and which must not only be quite useless for the higher purposes for which classificational units are wanted, but also stand in the way of the usefulness of the work containing them to those general students who may have occasion from time to time to consult special treatises for the mere determination of species. Thus the true Tenthredinidæ form seven tribes; and the first of these, Tenthredina, which alone is treated of completely in the present volume, includes three subtribes, Tenthredinides, Dolerides, and Selandriades; and although we cannot expect a corresponding amount of division in the succeeding tribes, the total number of terminal groups will still be considerable. At the same time Mr. Cameron will hardly be so great a sinner in this way as most of his contemporaries; and he has provided students with a guide through the intricacies of the subject in the shape of an analytical table of the genera, in which all the intermediate divisions of the family are ignored.

The strictly descriptive part of the present volume includes only the first tribe of the Sawflies, the Tenthredina, under which 202

British species are described. This tribe, however, includes the greater number of the species. The descriptions are very carefully drawn up, and include notices of the larvæ and natural history where these are known, while the determination of the species is facilitated by the insertion under each genus of a tabular synopsis of the species contained in it. The synonymy of the genera and species is also given with sufficient fulness; a considerable number of the species and of their larvæ are figured, often with details, upon some of the plates (twenty-one in number) with which the volume is illustrated, the remaining plates being devoted to the illustration of the general terminology of the group and to the representation in outline of the characters of the saw-like ovipositors, upon which, especially in some genera, Mr. Cameron lays considerable stress for specific determination. A bibliographical list, giving explanations of the abbreviations used, and a full index of both names and synonyms, complete the volume, which is in every respect a most valuable contribution to our entomological literature.

We cannot conclude this notice without saying a few words of the admirable society under whose auspices this present book has been produced. The Ray Society has for many years merited the hearty thanks of all British naturalists on account of the important series of works which it has brought out—works which it would be utterly impossible for any publisher to produce in the same style, especially as regards illustrations, except under a certainty of heavy pecuniary loss. We have already on several occasions called attention to some of these works, which we have been glad to see of late dealing more and more with various departments of British entomology; and we think that it behoves the entomologists of this country to lend the society a helping hand, of which, we are sorry to say, it stands much in need. A volume like that under consideration is not dear at a guinea, even if the subscribers get no more for the year; but with increased funds the productiveness of the Society will increase, and we may hope to see it once more rival its own glories of five-and-thirty years ago.

Guide to the Exhibition Galleries of the Department of Geology and Palæontology, British Museum (Natural History), Cromwell Road, South Kensington. 56 pp., with numerous woodcuts. 8vo. Printed by order of the Trustees, (October) 1882.

THIS is the first *illustrated* catalogue and guide-book issued for the use of visitors to the national collection. The Trustees of the British Museum show their willingness to meet the requirements of progressive knowledge, or at least the awakened intellectual inquisitiveness of the People. They not only set before them the bones and shells of bygone creatures, which are the enduring memorials of the Past, but give them descriptive words and artistic sketches of the extinct animals and their relics, so that the separate fragments